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ROUND MOUNT McKINLEY.

(MAP, p. 326.)

BY

FREDERICK A. COOK.

To men of a polar turn of mind it is easy to be diverted from solitudes of the Arctic ice fields to the snowy slopes of great altitudes. Polar exploration and high mountain climbing are twin efforts which bring about a somewhat similar train of joys and sorrows. After a series of fortunes and misfortunes in the Arctic and Antarctic, I decided last summer to devote myself for a time to mountaineering. I selected as my first point of attack the highest peak of the Alaskan Range, the most Arctic of all great mountains, which has been given the name of Mount McKinley by W. A. Dickey, an Illinois goldseeker. The task proved to be a prodigious one; and while we did not scale the icy spires which pierced the frigid blue above the frozen mist, we did attain an altitude of 11,400 feet, circled the most remarkable range in North America, and discovered a good deal of new country.

The expedition was organized in April, 1903. The party was necessarily small, and the supplies light because of the great difficulty of reaching the base of Mount McKinley over hundreds of miles of a trackless wilderness. My principal companions were Robert Dunn and Ralph Shainwald, from New York; and from Seattle, Fred. Printz and Walter Miller. The expedition, with its outfit and fifteen pack horses, left Seattle on June 9th on the steamer *Santa Ana*. The voyage with the hopeful Alaskan prospectors in the quiet inland seas was delightful. On June 23d we landed at Tyonek, on the north shore of Cook Inlet, and now we were confronted with the hard task of transporting supplies and walking to the great mountain.

We chose as the most promising slope for the first ascent the western side. To reach this side it was necessary to march nearly five hundred miles over swamps and tundra, through glacial streams and dense forests. With our outfit packed on fourteen horses, we started for our long, weary tramp from Cook Inlet lake in June. For the first thirty days we had an almost continuous series of cold rains, and during this time the horses and men were tortured by mosquitoes. After we crossed the range, however, the mosquitoes disappeared, the weather improved, and game was everywhere abundant. Here, along the northern slope of the McKinley group, we crossed the best game country in America. Caribou, moose, mountain sheep, and grizzly bears were constantly in evidence. With an abundant supply of fresh meat for ourselves and good grass for the horses we here made rapid progress. On August 14, after forty-nine days of difficult marching, we pitched a base camp fourteen miles northwest of the summit of the great mountain.

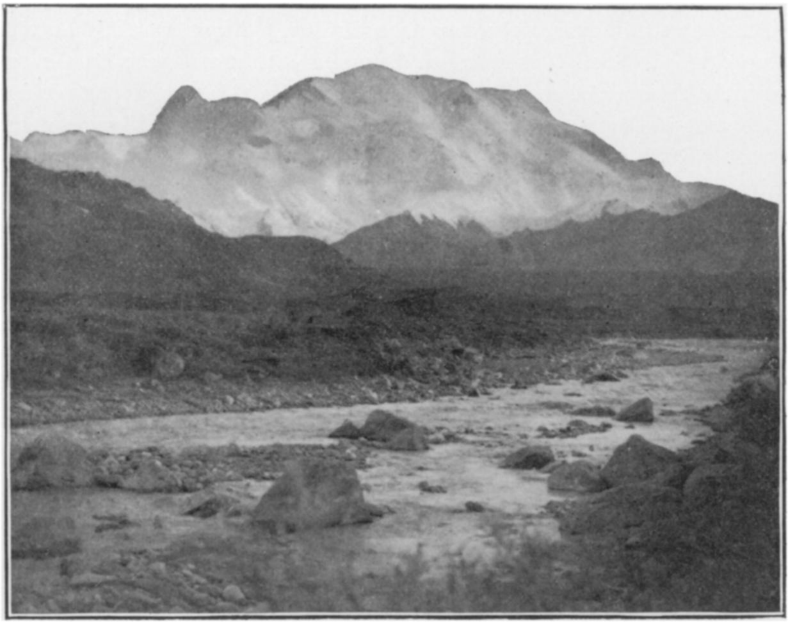
Mount McKinley presented a formidable face from our camp. The upper ten thousand feet were, during the day, usually wrapped in dark clouds. The best view was obtained when the sun was lowest, and by far the most impressive view was during the long hours of the blue twilight. In a bright light the mountain seemed dwarfed. The foothills, the glacial depressions, and the striking irregularities were then run together into a great heap of mingled snow and rock, but the feebler play of light at dawn and sunset brought out all of the sharp edges, the great cliffs, the depressions, the lesser peaks, and the difficult slopes. To the northeast there was a long ridge with a gradual slope; but this ridge was impossible as a route to the summit, because it was interrupted by several lesser peaks which absolutely barred the way. To the southwest there was a more promising ridge, also interrupted by a spur; but this spur we hoped to get around. The western face of the great peak between these ridges, above twelve thousand feet, was an almost uninterrupted cliff of pink granite, so steep that snow would not rest upon it. Hence, the only way to the summit from the west was along the southwesterly ridge.

On the morning of the 17th we moved our entire camp along the southerly fork of the headwaters of the Tatlathna River, crossing near the first moraine and pitching our base camp at an altitude of 4,000 feet. Here grass was new and sweet for the horses, but an almost constant rain made it an undesirable place for camping. For three days a strong southeasterly storm had been raging, bringing great cumulus and nimbus clouds through depressions across the range, and blotting out the upper slopes of the giant peak; but now there was an occasional break, giving us a glimpse of the bewildering heights of dazzling ice. Our course had been previously mapped from the lower camp, but as we rose up under the clouds close to the snow-line it became more and more difficult to pick a workable track. Our first destination was a point on what we believed to be the southwest ridge, at an altitude of ten thousand feet. With a few of our horses we ascended into the valley before us to the top of a large moraine. This led us on to a glacier which came out of a huge amphitheatre. We supposed, from the imperfect views which we had been able to get, that the eastern foot of this amphitheatre butted against the southwest ridge. As we reached an altitude of 8,300 feet, however, we discovered that we were on a ridge separated from the main mountain by Peters Glacier, and that farther progress was stopped by a great depression with precipitous walls. While here it snowed almost constantly, and the clouds drifting against us were so dense that we could only get an occasional view of the slopes but a few hundred yards away. From the line of this first attack we did not at any time see the main mountain, above eleven thousand feet.

The second attempt was made over the surface of Peters Glacier; making a base camp at five thousand feet near the northeast ridge, we then packed our supplies back to the southwest ridge to an altitude of eight thousand feet. We only ascended a few hundred feet before it became necessary to cut steps. The task of making steps was particularly difficult, because it was necessary to remove fourteen inches of snow before reliable ice was reached. Steps were thus cut for three thousand feet, and floor space was cut for our tent at night, to keep from sliding into the dark depths below; but then we were faced by an arête, with a nearly vertical granite wall, which loomed up four thousand feet. Here was an obstacle absolutely insurmountable. Though we were in splendid physical training, with an abundance of food in our sacks, we were forced to descend, because there was no other possible route from this side, and our previous reconnaissance had convinced us that the line of attack which we had pursued was the only route from the west.

The winter was advancing too rapidly now to think of making a formidable attack from the north or east, but we desired to swing around the range and return along the eastern slope. We crossed about fifty miles northwest, marched for one hundred miles over uncharted country, examined Mount McKinley from the east, left our horses, and then rafted down the Chulitna and Sushitna Rivers, getting back to Cook Inlet on September 26, three months after our start.

Mount McKinley is now known to be the highest peak in North America—20,300 feet. It is in middle Alaska, about one hundred and thirty miles north of the headwaters of Cook Inlet. It is a great mountain from every point of view—great in altitude, great in its general dimensions, and from whatever point of observation it stands out as a giant peak. From the west it rises abruptly out of a vast expanse of low grassy country, dividing the drainage of Alaska's three greatest rivers—the Yukon, the Kuskokwim, and the Sushitna Rivers. To the north and south the main range, of which Mount McKinley is a part, is ten thousand feet high—sharp, narrow, and crested with huge icy cornices. There are a few pyramidal foothills as one approaches from the west, and these lead up to a single ridge (Roosevelt Ridge) ten thousand feet high, weighted down with many overhanging glaciers. This ridge extends northeasterly for sixteen miles parallel to the whole western face of the great mountain.

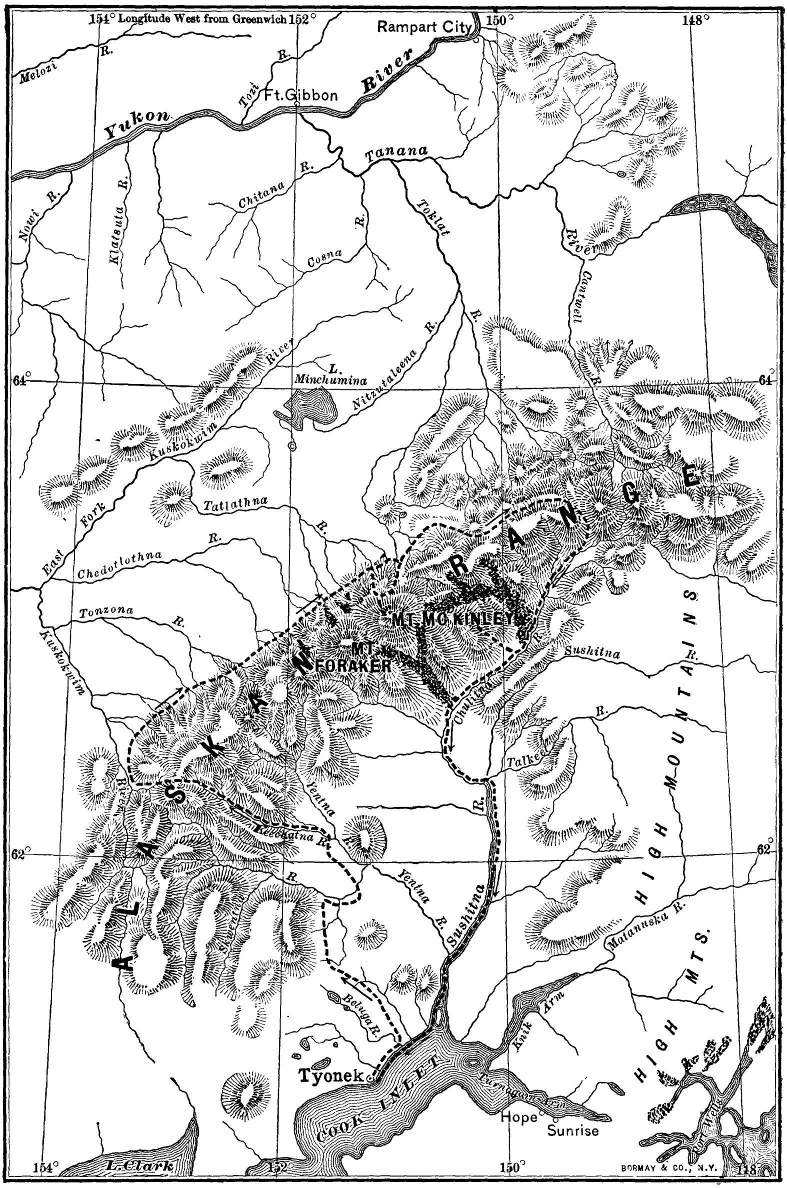


MT. MCKINLEY.

Beyond Roosevelt Ridge, and separating it from Mount McKinley, is a great glacier flowing through a deep gorge. The whole western face of the great peak is swept by this (Peters) glacier. It begins along the southern cliffs, at an elevation of 8,400 feet, in a huge granite amphitheatre. The glacier describes a sharp curve around the southwestern ridge and then follows the indentations of the main mountain, taking a general northeasterly course, descending to 5,100 feet under the northwestern ridge. From here the icy stream turns away northwesterly and spreads its great cargo of ice and broken stone on the lowlands. From both Mount McKinley and Roosevelt Ridge there is a ceaseless train of avalanches thundering down steep slopes to Peters Glacier. East of Peters Glacier the main walls of Mount McKinley rise in a succession of overhanging glaciers and granite cliffs, with a general slope of about forty-five degrees, culminating in a saddle-shaped ridge about two miles long.

Mount McKinley, like most large mountains, presents a very different aspect from every point of view. From a mountain thirty-five miles northeast, looking across unnamed peaks twelve thousand feet high, we got a striking view of the great McKinley uplift. An almost constant stream of clouds swept over and around the mountain from the east, and a blue electric glow softened the rough outlines. Now and again we could see the summit, and from here it resembled very much the crown of a molar tooth. Four tubercles were distinctly visible; the saddles seen from the west formed two, and to the east were two rather higher and more distinct. These tubercles of this giant tooth are separated by large glaciers, whose frozen current pours down very steep slopes into Fidele Glacier. Apparently continuous with Mount McKinley, and extending northeasterly far beyond our position, there was a sharp, icy ridge, in which we saw several mountains over ten thousand feet high.

From the east and south the great peak resembled somewhat a beehive, and it gives a better impression of bigness than from the west and north, but the approaches from here are still unexplored. Two very large glaciers drain the eastern slope. Fidele Glacier, probably the largest of interior Alaska, takes the output of several small glaciers about the northern and eastern slopes; and then taking a northeastern course, it is joined by two large glaciers, after which it circles among unknown mountains to the Chulitna River, where its face is eight miles wide. Ruth Glacier, a somewhat smaller stream, begins among the amphitheatres about the southeastern slopes; and taking a tributary from Mount Foraker and others from the lesser mountains eastward, it also describes a



Bulletin American Geographical Society, 1904

MT. MC KINLEY REGION—ALASKA

Natural Scale 1 : 3500000

SCALE OF MILES

0 20 40 60 80 100 120

Glaciers ▨ ------ Dr. Cook's Route

semi-circular course, but southward to the Chulitna River. Between these two glaciers there is a wide belt of sharp mountains from five thousand to twelve thousand feet high, separated by deep cañons.

Mount McKinley offers a unique challenge to mountaineers, but its ascent will prove a tremendous task. It is the loftiest mountain in North America, the steepest mountain in the world, and the most frigid of all great mountains. Its slopes are weighted down with all the snow and ice that can possibly find a resting-place, but, unlike Mount St. Elias, the glaciation is not such as to offer a route over continuous ice. Every conceivable way is interrupted by overhanging glaciers of granite cliffs. The area of this mountain is far inland, in the heart of a most difficult and trackless country, making the transportation of men and supplies a very arduous task. The thick underbrush, the endless marshes, and the myriads of vicious mosquitoes bring to the traveller the troubles of the tropics; the necessity of fording and swimming icy streams, the almost perpetual cold rains, the camps in high altitudes on glaciers, in snows and violent storms, bring to the traveller all of the discomforts of the Arctic explorer; the very difficult slopes, combined with high altitude effects, add the troubles of the worst Alpine climbs. The prospective conqueror of America's culminating peak will be amply rewarded, but he must be prepared to withstand the tortures of the torrids, the discomforts of the North Pole seeker, combined with the hardships of the Matterhorn ascents multiplied many times.

SOUTHERN RUSSIA AND THE CAUCASUS MOUNTAINS.*

BY

EDMUND OTIS HOVEY.

Once in three years the geologists of the world meet to discuss questions of their science which concern all countries alike. These congresses began with one held in Paris in the year 1878 as the fulfillment of a plan proposed at the meeting of the American Association for the Advancement of Science at Buffalo, New York, in 1876. Other meetings of the Congress have been held in Bologna,

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* Synopsis of a lecture delivered before the American Geographical Society, Tuesday, 19 April, 1904.